PLUS
BUSINESS
Fall construction report

- **MGM/UA pix skip b'cast for syndie, pay**
- **TBS vexes Comsat with 'Soviet Olympics'**
- **NCTA, CTAM add substance to Eastern Show**
- **SPECIAL REPORT: ICR cable/telco study**

CableVision™

nd features weekly of the cable television industry

September 3, 1984

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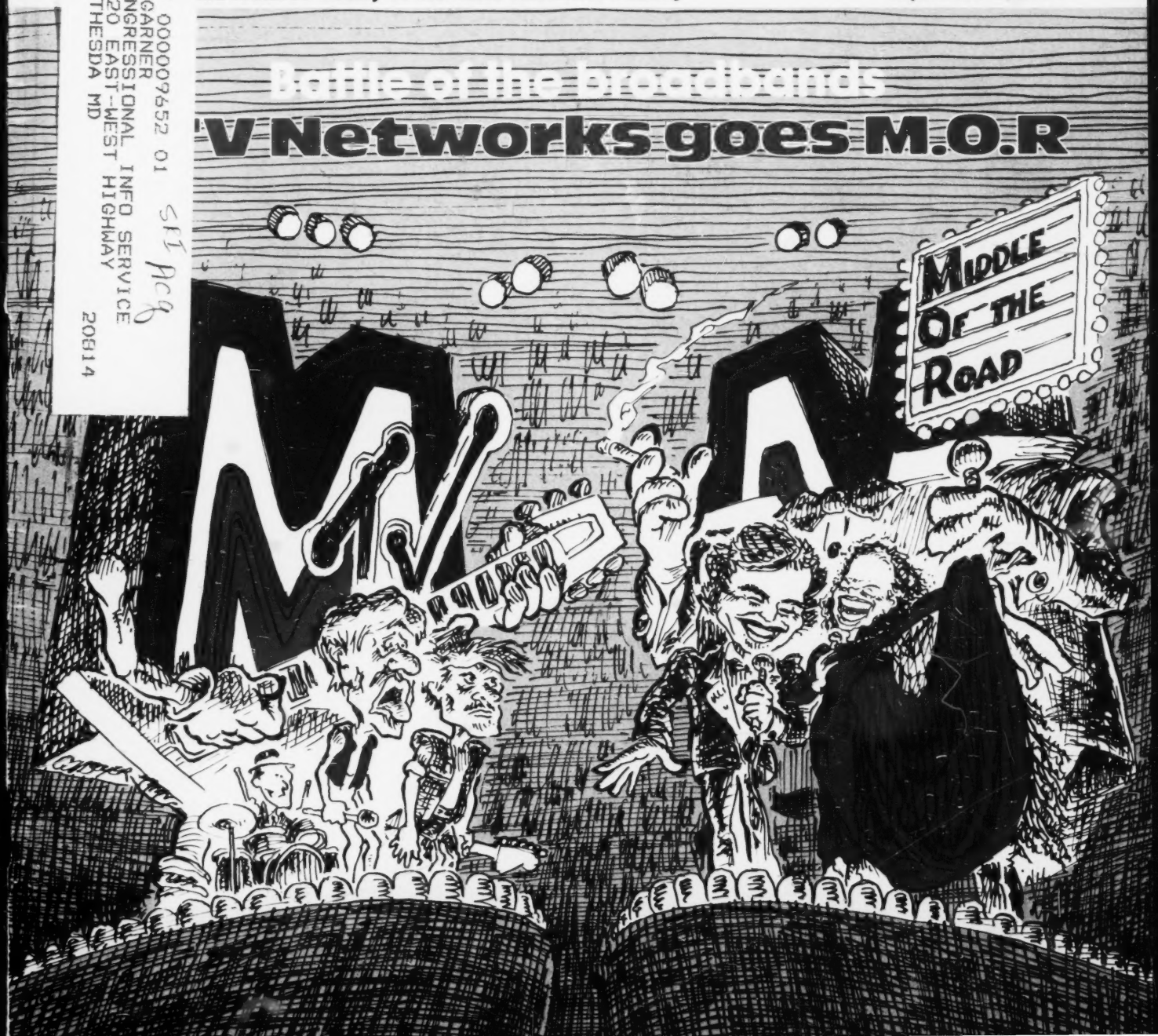
Battle of the broadcasters

V Networks goes M.O.R



MTV prepares to launch MTV II.

Leading the week 13-22

MTV for grown-ups

Just 10 days after Turner Broadcasting announced its intention to enter the 24-hour music video programming business, MTV Networks Inc., the company whose service started it all, announced a semi-pre-emptive strike—the creation of a second 24-hour music video service, but one pitched to the "adult contemporary" crowd. The principals describe the venture, and the operators and Madison Avenue react.

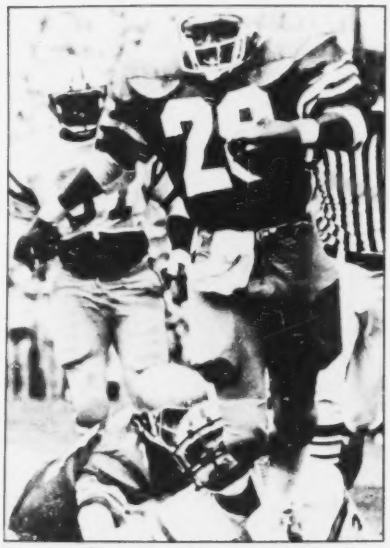
Z Channel expansion

Group W Cable has decided to offer its Los Angeles-based Z Channel pay service to systems nationwide. The expansion will be limited to the company's own affiliates.

Eastern Show pizzazz

Eastern Show organizers expect some 4,500 cable officials at their annual trade convention next week in Atlanta. Convention planners hope that CTAM-arranged panel sessions and special NCTA and Council For Cable Information presentations will add luster to this year's affair.

Georgia World Congress Center, site of the Eastern Show.



Pac 10, Big 10, UCLA, and USC allege there's a conspiracy to monopolize the football market.

Sports snafu

Collegiate sports may be on the way back to the courthouse in the continuing battle over the right to televise college football. This time the players include ABC and ESPN.

Cox decision

A federal district court judge in New Orleans has affirmed the right of Cox Cable to unbundle its 31-channel, $7.95 basic package, yet maintained that the price for a new proposed 11-channel basic service should be frozen at the same price. Cable officials welcomed the decision as a reaffirmation of the FCC's *Nevada* decision.

Sections

Programming 28

An MGM/UA film package with *My Favorite Year* and *The French Lieutenant's Woman* among its titles will skip broadcast network airplay and instead alternate between syndication and pay TV runs the next few years. Also, Robert DiMatteo samples Arts & Entertainment Network's September programming.

Marketing/Advertising 30

Officials from NewChannels Corp. and Continental Cablevision, two winners of the Cable Television Administration and Marketing Society's First Annual Awards for Excellence in Cable Marketing, discuss their prize-winning marketing campaigns.

Business 71

Integrated Communications Systems has begun preparing for next year's test of its Transtext advanced in-home communications system which will involve several hundred cable subscribers in Roswell, Ga., a suburb 10 miles north of Atlanta.

Government & Law 76

The National Association of Broadcasters has discovered a fly in the ointment of the Supreme Court's *Crisp* decision. The lobbying group, along with six other broadcast interests, held that the decision, which handed the cable industry important relief from local controls, also specifically supports the FCC's must-carry rules, which the cable industry has been fighting for several years.

About the cover

MTV's rockers are making room for the network's new "middle-of-the-road" music video channel. The likes of Julio Iglesias and Diana Ross meet rock veterans such as the Rolling Stones in artist C.A. Boyer's illustration.

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Parting Words 98

At the crossroads: Cable and Telcos

International Communications Research and Coopers & Lybrand assess the possibilities

Just as the first signs of pragmatic accord seemed to emerge between cable and telephone companies, tussling broke out again. This time the rhetoricians are the California Cable Television Association and Pacific Bell.

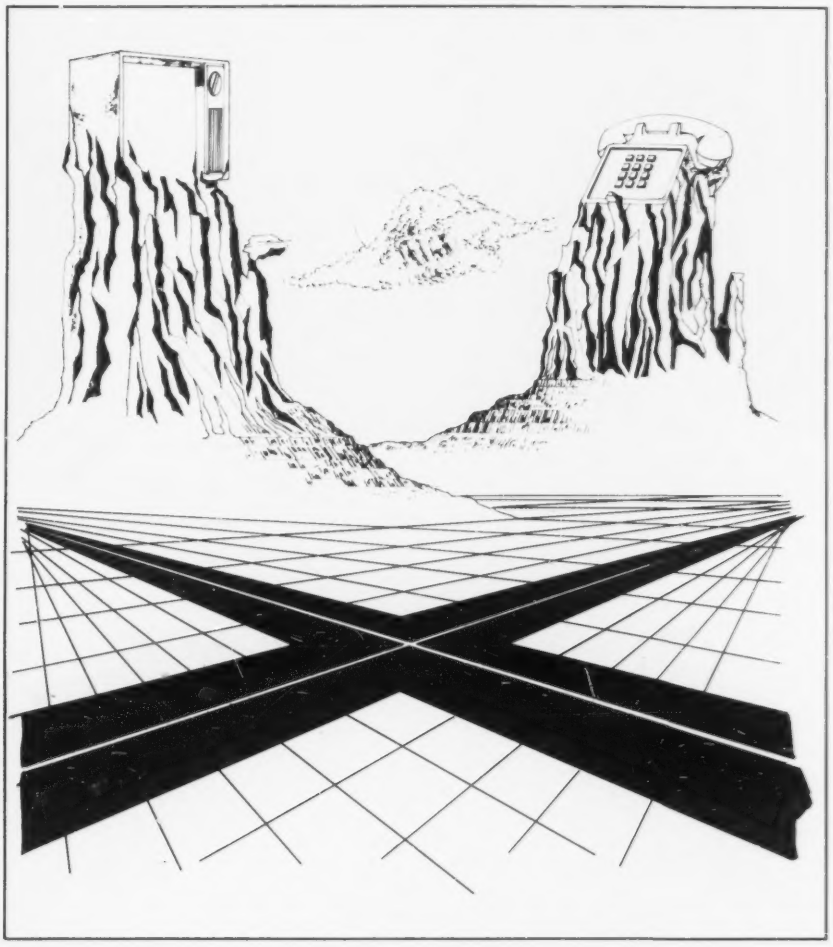
The problem seems to be with PacBell's style. It wants to wire Palo Alto and lease the system back to the cable franchises. But it approached the city with a construction bid before making a deal with any cable partner. That tactic differs fundamentally from PacBell precursors into cable construction, C&P Telephone in Washington, D.C., and Wisconsin Bell in Brookfield, Wis. Both made far more diffident approaches to franchise authorities, hand in hand with cable company bidders. CCTA worries aloud that if PacBell wins its FCC waiver to build a system on its own turf, it will build without a franchise and intimidate any future operators with the threat of competition.

Meanwhile, federal court Judge Harold Greene, who presided over the divestiture of AT&T, recently issued a voluminous decision intended to limit just what the apparently liberated telcos can do in such new business areas as cable. Its impact on the latest versions of cooperation is still the subject of much debate in both camps.

So the issue of cable/telco collaboration is once more an industry obsession. Does the latest outbreak of mixed signals augur a crossroads or crossed swords?

Earlier this year, in what became a remarkably timely conjunction, International Communications Research, International Thomson's media research subsidiary, and Coopers & Lybrand, one of the world's largest public accounting and consulting firms and auditor of many of the divested telcos, combined ICR's industry database, CableProFile, and C&L's financial diagnostic, PEERVUE, to examine the financial and philosophical questions raised by various forms of collaboration, with particular attention to sale/leasebacks.

ICR and Coopers & Lybrand have made the resulting joint report, "Cable/Telco at the Crossroads," available to *CableVision*. Substantial excerpts follow.



Analyzing an alliance

All potential relationships between cable systems and telephone companies can be predicated on two assumptions:

1) The principal lines of business for both sets of players are not directly competitive. The areas of potential overlap (and therefore collision) are far fewer than the areas of exclusivity.

2) Various types of collaboration would be mutually beneficial, both financially and in terms of serving demonstrated marketplace needs. More specifically, the benefits for telephone companies in seeking cooperative relationships with cable companies are essentially threefold: They enhance the telcos' ability to respond expeditiously to new communications needs; they avoid the need for costly construction of duplicative plant; in the case of sale/leasebacks, they enhance the telcos' revenue base by ensuring the presence of a long-term leasee of wideband channel capacity.

The potential risks with such relationships involve the imposition of regulatory restraints and the bolstering of companies

Chart A

Peervue financial trends analysis

Asset turnover = Revenues / Total assets	×	Pretax profit margin = Income before taxes / Revenues	=	Pretax return on assets = Income before taxes / Total assets	×	Asset leverage = Total assets / Common equity	=	Pretax return on equity = Income before taxes / Common equity			
Pretax return on equity	×	Tax retention = 1 − Tax provision / Income before taxes	=	After tax return on equity = Net income / Common equity	×	Equity retention = 1 − Dividend provision / Net income	=	Equity reinvestment = Earnings retained / Common equity			

Historically, tax retention for the cable industry has been very favorable compared to the S&P 500.

which might otherwise fade away in the face of competition.

The benefits to cable companies stem primarily from: reduction in capital requirements associated with the cabling of the nation's largest cities; the potential off-loading of certain back-office functions such as billing and customer service; assistance from telcos in the marketing of cable's excess frequency capacity; increased and more efficient market coverage; and assistance in system interconnection.

The potential risks for cable companies involve a dependence on the telco and the sharing of revenues that might otherwise flow entirely to the cable operator.

Financial prods

"Cable/Telco at the Crossroads" considers financial trends in the cable industry, and how those trends might be improved, or if favorable, maintained through sale/leaseback arrangements.

PEERVUE, a financial diagnostic developed by C&L, was used to analyze the aggregate financial performance of nine of the largest "pure play" publicly held cable operators. It assessed the components driving return on equity and equity reinvestment, including asset turnover, pretax profit margin, asset leverage, and effective tax rates. It compared return on equity versus cost of equity to the market value of a company's stock versus the book value of its stock. The result is an objective means of evaluating the relative attractiveness of the cable industry from a capital market point of view.

The results of the PEERVUE analysis, including a discussion of trends and their implications for the appeal of sale/leasebacks are summarized in chart A.

Asset turnover

Industry trend

Historically, the cable industry has been an asset-intensive business. This can be attributed to the large investment required in plant and equipment. Since 1979, this trend has become more pronounced as newbuild and upgrade activity increase. Asset turnover should begin to improve as new construction activity declines. See chart B.

Potential cable/telco cooperative opportunities

For the cable companies, sale/leaseback arrangements with telcos could improve asset turnover. If the telcos assume responsibility for cable plant construction, repairs and maintenance, and customer service and billing, cable operators could focus their management energies on revenue

Chart B

Asset turnover

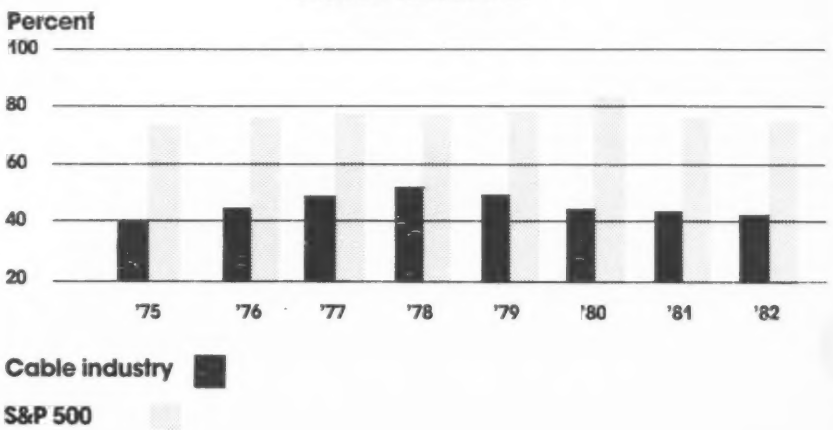
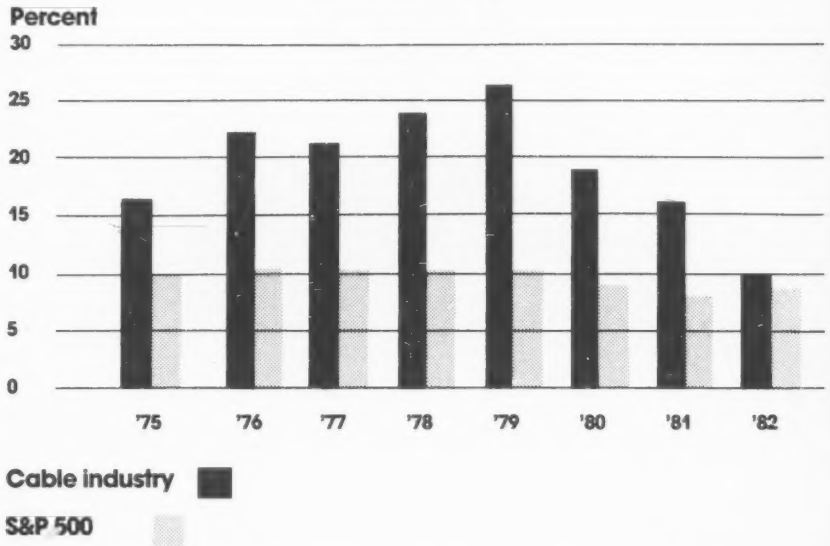


Chart C
Pretax margin



generation through subscribers' fees and local advertising. In addition, if new construction could be accomplished more efficiently by the telcos (due to their construction experience and economies of scale in major telecommunications construction), then each dollar of asset investment would generate a higher level of revenues per asset dollar from the same transmission capability.

Pretax margin

Industry trend

Since 1979, the cable industry's margins have declined dramatically, dropping by 50 percent in only four years. Such a dramatic and consistent decline prompts the following observations.

Cable's pretax margins have consistently exceeded the S&P 500. However, the fact that these margins are approaching the S&P 500 is disturbing, given the capital-intensive nature of the business.

To some extent, the decline in pretax margins can be attributed to:

- An increasing cost of capital due to the capital market's perception of cable as an increasingly risky business;
- Cost overruns in construction;
- Increasing programming and marketing costs; and,
- Overall, the promises made by cable franchise winners, including economic commitments, such as sophisticated public studio facilities and community grants.

Despite these short-term reasons for the decline in pretax margins in the industry, the

Chart D
Pretax return on assets

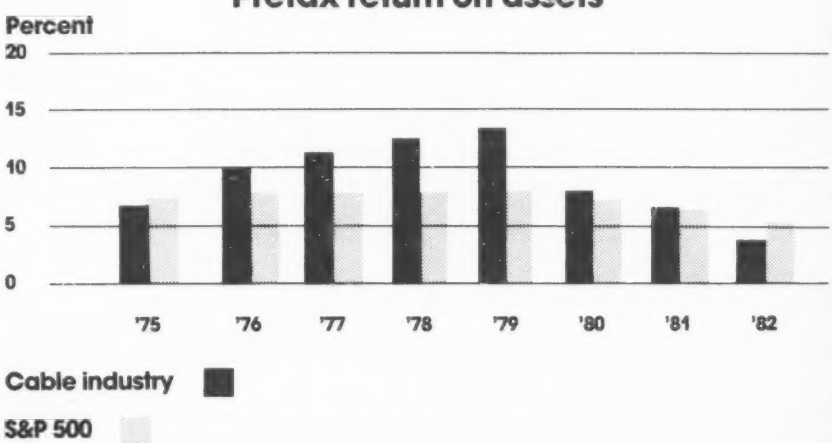


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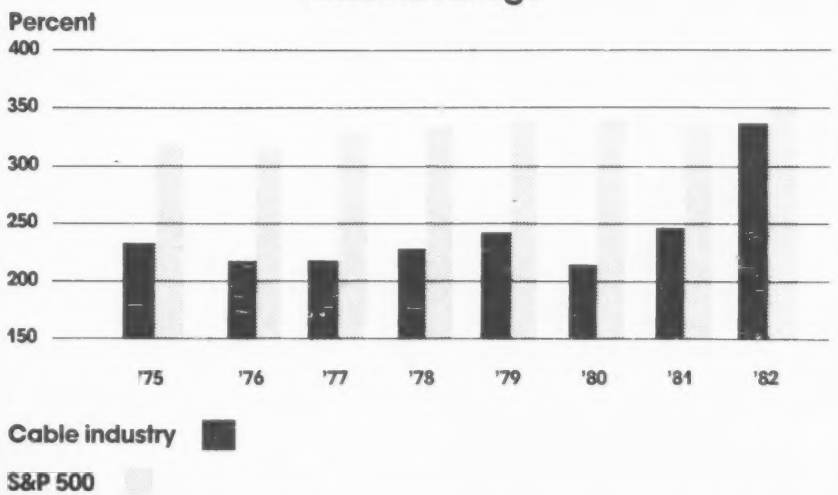
Chart E
Asset leverage



rate of decline and its consistency may reflect a fundamental shift in the economics of the business that could have serious implications for longer term viability. See chart C.

Potential cable/telco cooperative advantages

Cooperative arrangements between cable operators and local telcos could improve pretax margins in three ways:

- Local telcos could take advantage of their experience and potential for economies of scale and provide installation and repair, billing, and customer services to the cable operator in a more cost-effective manner;
- Assuming the cable operator's lease payments would be less than the sum of existing depreciation and interest expenses, operating margins would improve; and
- Focusing cable managements' energies on marketing and programming could lead to incremental revenues. Such revenues generated from existing plant would yield higher margins, due to the relatively low incremental costs.

Pretax return on assets

Industry trend

The cable industry's pretax return on assets (e.g., asset turnover × pretax margins) has declined precipitously since 1979 and, as of 1982, actually was less than the S&P 500. See chart D.

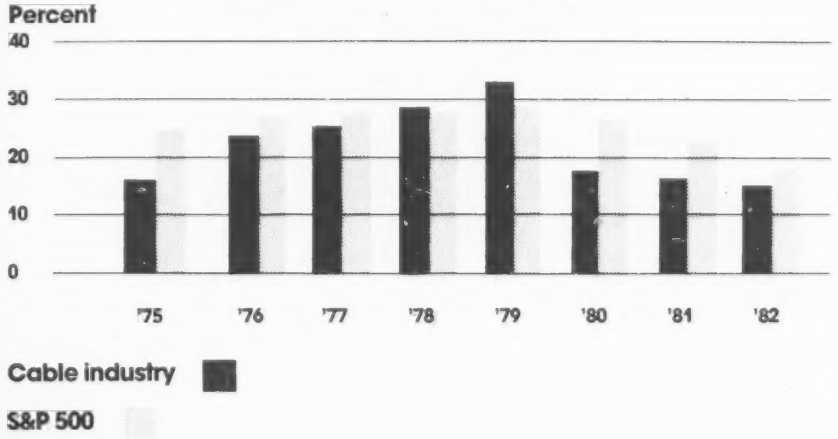
Asset leverage

Industry trend

Overall, the cable industry has grown its asset and equity bases at very rapid rates.

Compound growth rates from 1975-1982
Total assets 30.6%
Stockholder's equity.....24.3%

Chart F
Pretax return on equity



The cable industry's pretax return on assets has declined precipitously since 1979 and, as of 1982, actually was less than the S&P 500.

While previous asset growth has resulted from ambitious construction programs, any growth in the latter half of this decade will probably result from acquisitions. Currently, the smaller (5,000-10,000 subscriber) cable systems are the most sought-after entities.

Asset leverage trends are disturbing. By 1982, the cable industry approximated the S&P 500. It appears, however, that the cable industry may be becoming too capital-intensive. For example, 1982's asset leverage ratio is approximately 110 percent above the average telecommunications company.

From the capital market's perspective, equity investments in cable companies in earlier years were based on the expectations of asset-base growth. Now that approximately 60 percent of the assets are in service, stock prices will depend on proper utilization of these resources. See chart E.

Potential cable/telco cooperative opportunities

Sale/leaseback of cable assets to the telcos would reduce both technological and capital structure risks for cable operators. From a construction planning and upgrade point of view, the telcos would have a vested interest in reducing the risk of technological obsolescence for cable plant, the principal collateral securing lease payments. The profits from sale/leaseback transactions would improve the equity position of cable operators and reduce the current high level of asset leverage.

Pretax return on equity

If cable's asset leverage had not increased dramatically in recent years, pretax return on equity (pretax return on assets × asset leverage) would have declined even more dramatically. Skepticism about the accelerated rate of asset growth, coupled with declines in pretax return on equity, are worrisome issues among analysts. Anthony Becker of A.G. Becker Inc. notes, "A major area of concern for those of us that follow the cable industry is whether, from a management point of view, many of the cable operators have the ability to control the level of expenditures that they've been committed to." See chart F.

Tax retention rate

Industry trend

Historically, tax retention (the difference between income and tax expense) for the cable industry has been very favorable compared to the S&P 500. Large capital expenditures have generated substantial investment tax credits. Net operating loss carryforwards have resulted from early year losses among start-up systems. In the short-term, these two trends will persist, but in the future, the cable industry's ability to shelter income will diminish. See chart G.

Potential cable/telco cooperative opportunities

Within the next five years, a vast majority of the potential plant expansion (newbuilds and upgrades) within the U.S. will be completed. Currently, 60 percent of all construction has been completed. As such activity declines, related tax benefits also will be reduced.

Cable/telco cooperative arrangements provide a potential means to continue sheltering income *and* utilize existing tax benefits. Sale/leaseback of existing systems could be attractive in two respects:

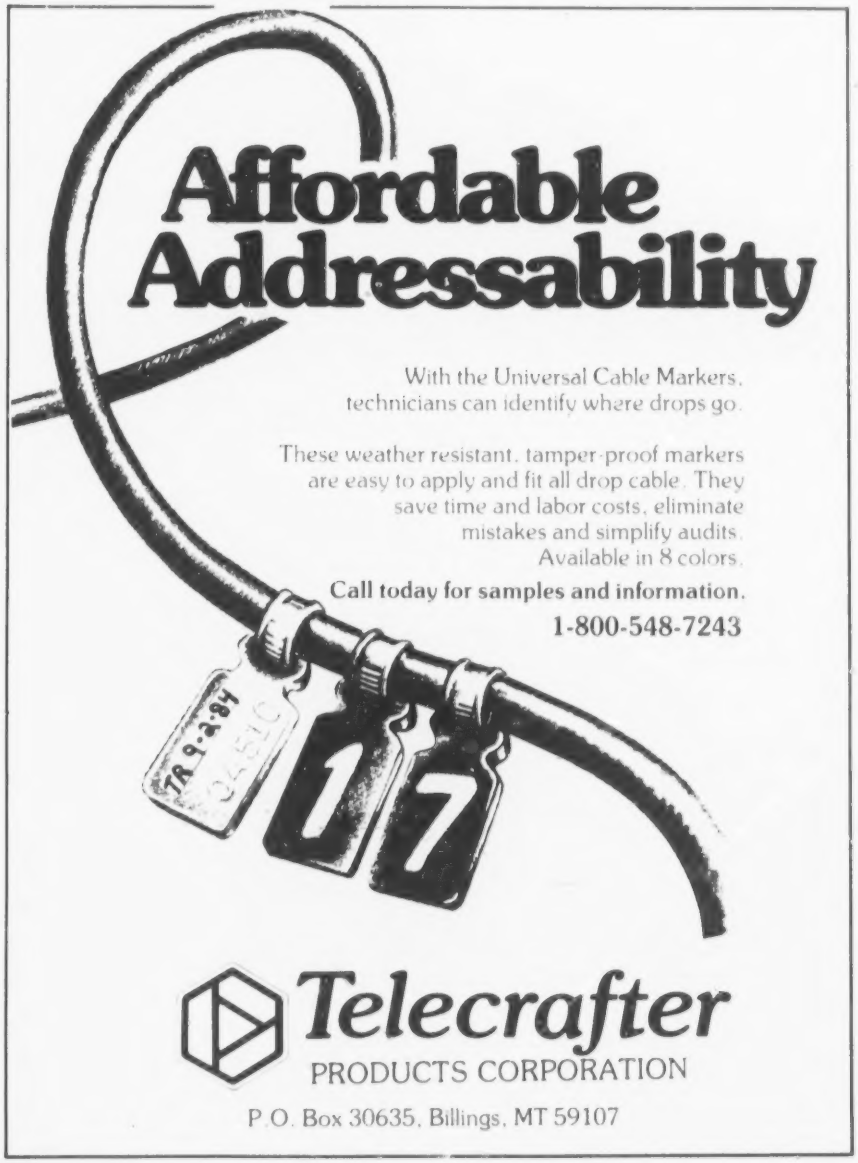
- Depreciation recapture on existing systems could be offset by unutilized investment tax credits and net operating loss carryforwards; and
- Gains on sales would be taxed at the lower capital gains rate.

After-tax return on equity

After-tax return on equity (pretax return on equity × tax retention rate) has remained relatively stable due to the improvement in tax retention rates. As mentioned previously, however, the maturing of the cable industry business will probably lead to a decline in these rates. See chart H.

Equity retention

Throughout the period examined, the cable industry consistently paid lower dividends than the S&P 500. As the industry matures, it is likely that the stock market will require higher yields, no longer "buying for the future." Cable companies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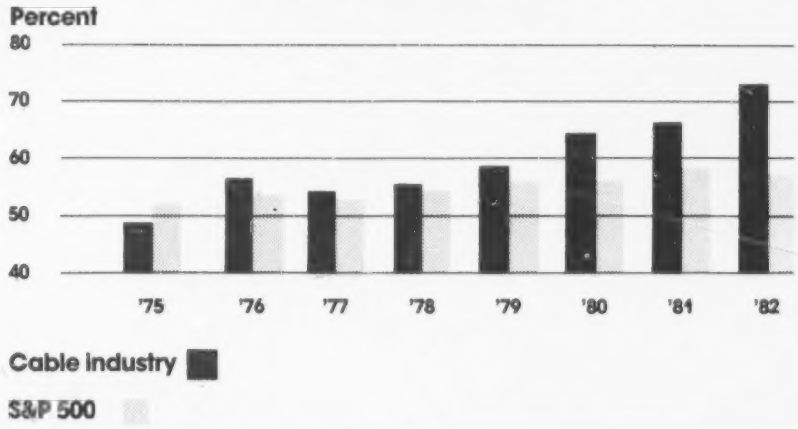
The gamut of possible cable and telco collaborations is only limited by the creativity of the two parties.

Chart G
Tax retention rate



will have to achieve higher profits and cash flow in order to improve dividend yields. See chart I.

Equity reinvestment

Industry trend

After paying common and preferred dividends, corporations can measure the percentage of each revenue dollar ultimately retained for future operations—equity reinvestment. Since 1979, cable's equity reinvestment rates have declined, principally due to a decrease in profit margins. This translates into a weakened ability to fund (reinvest in) future operations. This condition has become even more acute for "pure-play" companies that do not have sources of cash flow from other corporate divisions. Diversified communications companies are using broadcasting and publishing divisions to fuel cable expansion. A Kidder Peabody analyst points out, "Essentially the broadcasting division (of

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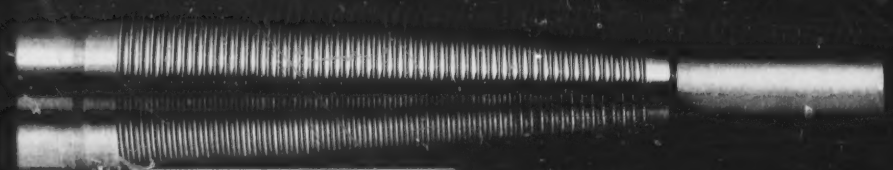

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Cox Communications) acts as a cash cow than can pay for some of the heavy capital expenditures in the cable division without onerous cash flow deficits and with a relatively low level of debt. . . . Viacom relies on the program syndication business as its cash cow to fund cable growth." See chart J.

Potential cable/telco cooperative opportunities

The potential capital crunch facing many system operators could be alleviated through sale/leaseback deals or telco construction of new cable facilities. While either of the scenarios would be beneficial to diversified communications companies, such arrangements are particularly attractive to "pure-play" operators who lack an internal source of funds to finance capital needs.

Cost of equity

Industry trend

There is a dramatic difference in costs of equity for the cable and telephone companies. From 1975-82 the spread has averaged 6.2 percent in favor of the telcos. This disparity can be attributed to the different nature of the two businesses. Cable is a relatively young industry with new markets and is subject to technological obsolescence and product substitutes. The telephone business, until divestiture, has traditionally been a large, stable, monopolistic business.

Recognizing that the breakup of AT&T might cause a telephone company's cost of equity to rise somewhat due to the increased business risk, it is still likely that a significant spread in the cost of equity will continue for the foreseeable future. See chart K.

Potential cable/telco cooperative opportunities

The telcos could finance existing systems, newbuild construction, or upgrade construction with a lower cost of capital.

Market-to-book valuation based on return on equity-cost of equity spreads 1976-1982

Although the cable industry's return on equity has been declining and its cost of equity remains high, the capital markets have viewed the industry favorably. The stock market value versus book value of a company's stock provides an objective measure of relative industry attractiveness as perceived by Wall Street. Chart L illustrates that, despite the consistently poorer spread between return on equity and cost of equity, the cable industry has outperformed the S&P 500 average.

Market-to-book valuation based on return on equity-cost of equity spreads 1976-1982

A look at the year-to-year trend, however, indicates that as Roe-Koe spreads have grown worse, the capital markets have begun

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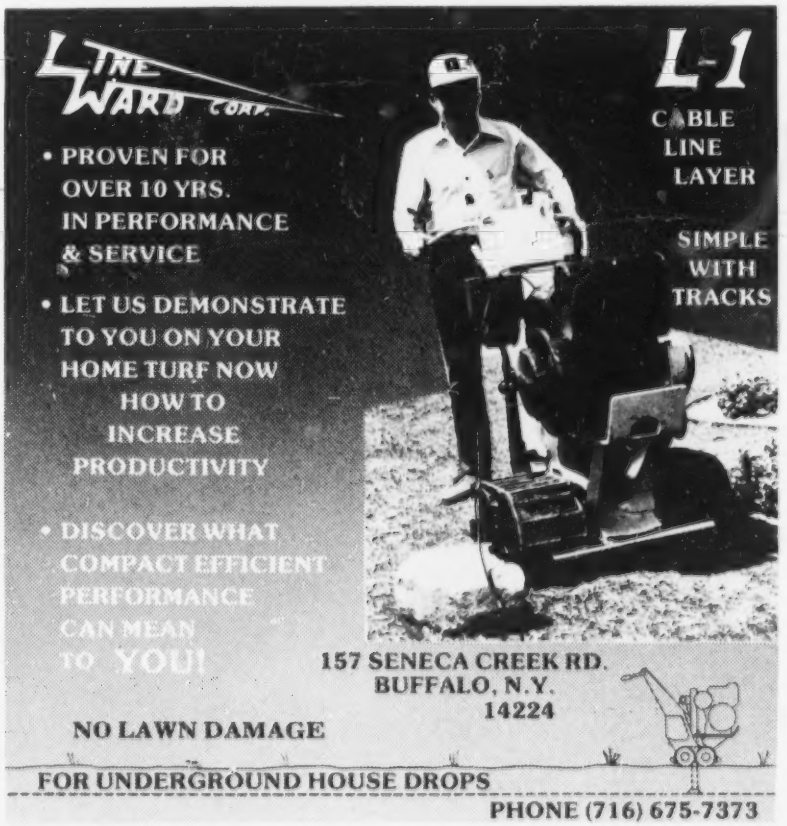
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to reduce the premiums they are willing to pay for participation in the emerging cable industry. This trend can be attributed to disappointing results, combined with a reassessment of long-term industry prospects due to overambitious franchise proposals and the introduction of alternative technologies. See chart M.

Structuring the arrangement—operations overview

The gamut of possible cable and telco collaborations is only limited by the creativity of the two parties. These relationships can range from pure financial or service contract arrangements to a hybrid arrangement including financing, service, and equity/revenue participation. Cable/telco joint ventures could include any of the following characteristics:

- Straight sale/leaseback;
- Revenue sharing;
- Buyout options;
- Equity participation; or
- Jointly owned services.

It is likely that some combination of financial and operating incentives would be needed to satisfy both interests. Clearly, these interests can only be assessed on a company-by-company or system-by-system basis.

For purposes of discussion, ICR and C&L invented a cable system with the following characteristics:

- Originally constructed as two-way capable single-trunk plant;
- First subscriber activated in 1976;
- Currently (1984) offers 27 channels, of which three are pay services;
- Current pay penetration is 50% of all basic subscribers, with each pay subscriber buying an average of 1.4 pay services;
- Current rates are $8.50 for basic cable, $11.00 for each pay service; and
- No pay-per-view programming is currently offered.

In anticipation of franchise renewal in 1990, the cable operator would like to:

- Enhance system capabilities by adding addressability;
- Secure a rate increase;
- Carry additional pay services, one or more of which may be pay-per-view; and
- Increase channel carriage capacity if necessary.

The report further assumed that there is no underground plant and that all the poles used for this 100% aerial plant are owned by the telco, with whom the cable operator has good business relations.

Sale/leaseback arrangement

In 1984, the cable operator sells the fixed assets of the system described above to the local Bell operating company or local regional holding company. In so doing, the cable operator sells all of the system's coaxial plant, including headends, towers, TVROs, plant electronics, and all processing equipment. Customer premises equipment (CPE), i.e., in-home cable converters, are not included as part of the system's fixed assets; CPE ownership is retained by the cable operator. The cable converter is not treated as part of the system's fixed assets because its useful life is much shorter than most other plant elements, and the investment in converters is variable, depending upon the size of the subscriber base. In return, the cable company pays the telco an annuity of lease payments which provide the telco with a contractually determined return.

This arrangement does not include any modifications or improvement to the plant. It is a simple, straightforward sale/leaseback arrangement, which may either stand on its own or lead to other additional business arrangements.

In a sale/leaseback environment, converter installation could be contracted to the telco, given that the telco is responsible for providing cable drops to the home. In instances where the cable drop is already in place ("dead drops"), subscribers could pick up the converter from the system or the Phone Store and install it themselves. Similarly, the cable operator would contract with the telco for the disconnection/reconnection of cable services.

In short, from an operational standpoint, a sale/leaseback suggests an additional business relationship between the cable operator and telco, in which the latter assumes responsibility for the maintenance of CPE. Such a relationship makes sense not only from an operational perspective but also

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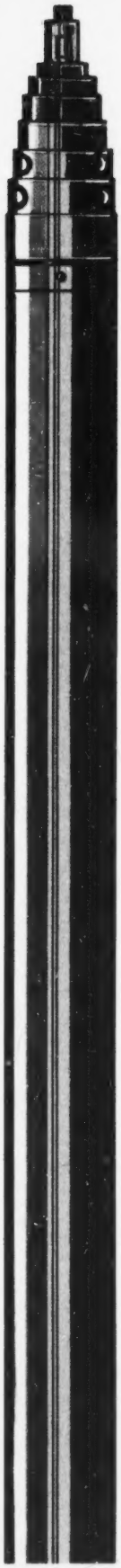

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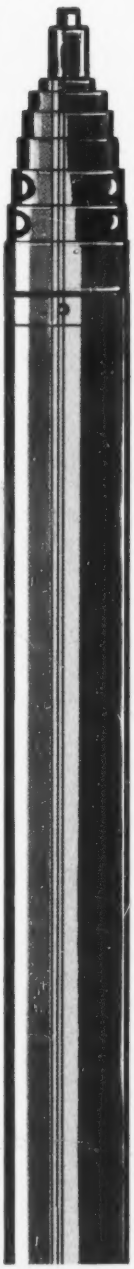


because it relieves the cable operator of the requirement to employ a maintenance and installation work force.

Adding addressability

Upgrading a cable system to incorporate one-way addressability results in two obvious advantages to the cable operator:

- The ability to activate/deactivate cable services from the headend; and
- The ability to provide various supplementary revenue-generating services, such as pay-per-view, data transmission, videotex, etc.

Cost and uncertain potential revenue flows have been the major barriers preventing the cable operator from adding one-way addressability. While theft-of-service and multi-pay churn are increasingly troublesome problems, these are primarily urban phenomena. The operator of rural and suburban cable systems is, therefore, hard-pressed to justify the added expense of addressability unless compelled to do so, either because of converter obsolescence or in pursuit of franchise renewal.

This reluctance on the cable operator's part presents an opportunity for the telco. By sharing the cost of the retrofit, the telco positions itself to become a CPE/hardware supplier to the cable operator. Such cost-sharing might be accomplished through a cooperative plan in which the telco builds additional capabilities into the converter, enabling the cable operator to provide enhanced entertainment services like pay-per-view. Ultimately, such capabilities might be utilized to offer certain non-entertainment services as well, e.g., videotex, data transmission, security/energy management, etc.

Where a sale/leaseback arrangement is in force, or contemplated, the addressable retrofit can be treated as a plant improvement and its cost subsumed into the cable operator's lease payment.

Billing and customer service

Both billing and customer service are aspects of the cable operator's business which may be contracted to the telco regardless of whether a sale/leaseback agreement is in force. With the interconnection and regionalization of cable systems continuing, the provision of such services by the telco only grows more attractive, as economies of scale begin to take hold.

Billing for cable services in the absence of pay-per-view offerings is rather straightforward. Bills are generally mailed at the end of each month, with all services billed for one month in advance. In a pay-per-view environment, an event-itemized billing is required and questions of credit extension come into play. Clearly, even with the addition of pay-per-view, cable TV billing procedures are very similar to those currently utilized by telcos.

Customer service requirements, on the other hand, are a bit different. While the bulk of all customer service inquiries concern billing, service installation/disconnection,

Chart H
After tax return on equity

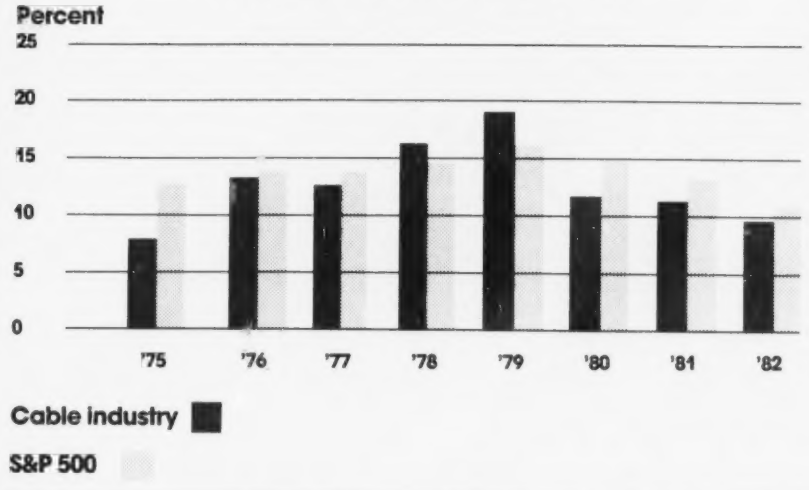


Chart I
Equity retention

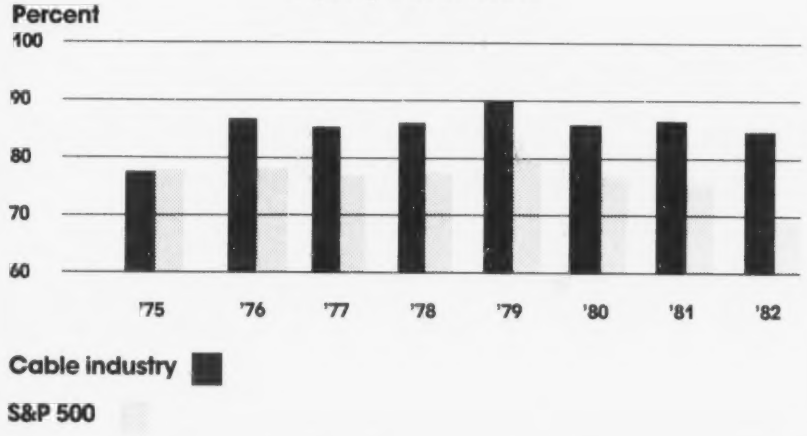
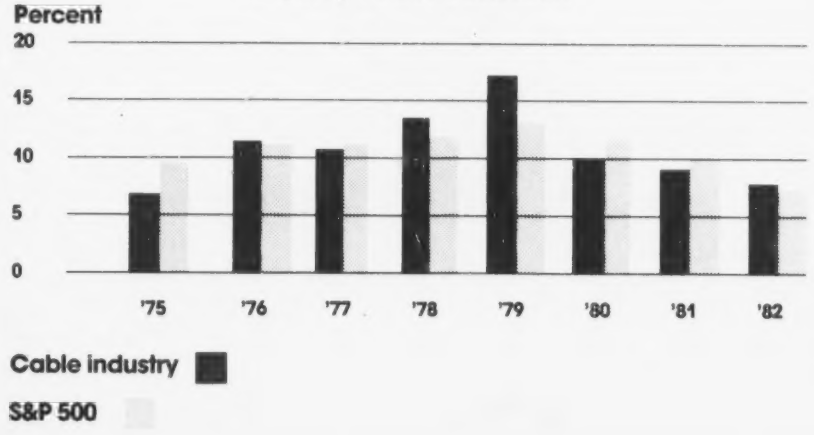


Chart J
Equity reinvestment



While previous asset growth has resulted from ambitious construction programs, any growth in the latter half of this decade will probably result from acquisitions.

Chart K
Cost of equity

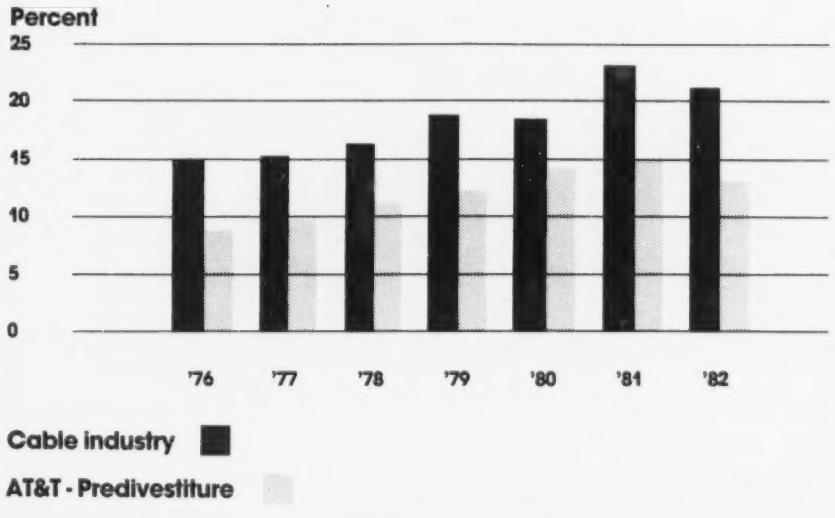
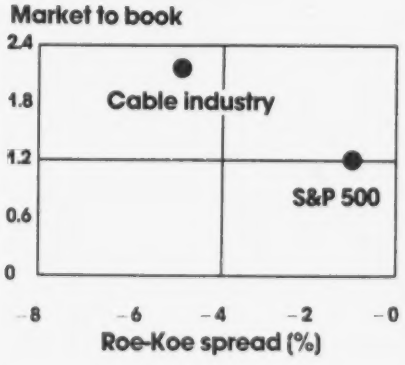


Chart L
Market valuation based on Roe-Koe spread 1976-1982



and relocation of CPE, the customer service representative also must be thoroughly trained to deal with questions about programming and the marketing of additional services such as pay TV, additional outlets, program guides, and specialized tiers of cable programming.

The telco could be compensated for these services through a cost-plus arrangement or by a percentage of revenues. Revenue-sharing may be an attractive arrangement because it motivates the telco to provide quality service and offers an upside profit opportunity, given the telco's willingness to invest.

A potential side arrangement could be for the telco to use its directory sales force to sell local availability for the cable system's basic programming services.

Finally, the telco could make an equity investment in the system; once again, such an arrangement would reduce the cable company's investment as well as provide upside profit opportunities for the telco.

In summary, a sale/leaseback arrangement between cable operators and telcos, while not a necessary precondition, opens the door to a number of supplementary agreements between the two parties. By buying and leasing back the cable plant to the cable operators, the telco positions itself to contract for the provision of a number of other business functions. These range from the upgrading (retrofitting) of the plant and installation/maintenance to the provision of various ancillary services such as billing and customer service.

Tax-oriented transactions

A sale/leaseback arrangement could be scrutinized by the Internal Revenue Service. A leasing transaction is treated for federal tax purposes as a true sale and leaseback if several conditions are satisfied.

- The telco must have a minimum investment (20% of the property cost) in the property at the inception of, during, and at the end of the lease term.
- The fair market value of the leased property at the termination of the lease must equal at least 20% of its original cost to the telco.
- The cable operator can only purchase back the leased property at fair market value.

The tax treatment would be further complicated if there were related arrangements, including service contracts, equity participation, or revenue sharing. It is likely tax issues would have to be addressed on a deal-by-deal basis.

Regulatory issues

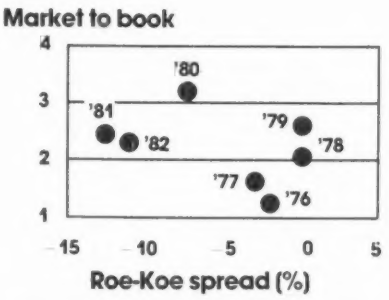
Regulatory issues tend to cast a pall on all studies to which they are relevant. If they did not, they would not be worth discussing. There are few positive regulatory issues.

The regulatory issues posed by cable/telco cooperative ventures are extremely complex and must be viewed from the separate perspectives of the cable regulator and the telco regulator. On both sides of the partnership, they involve questions of service

The regulatory issues posed by cable/telco cooperative ventures are extremely complex and must be viewed from the separate perspectives of the cable regulator and the telco regulator.

Chart M

Market valuation based on Roe-Koe spread 1976-1982



reliability, of financial viability, and of the impact on consumer costs.

From the telco perspective, interest in cooperative ventures is greatest if resulting profits can be channeled to shareholders rather than to customers. Nonetheless, any profits which must be passed on to customers should still be of interest, for in the current regulatory environment, telcos will receive less rate relief than they may need, and anything that ameliorates the need for rate increase should be welcome.

From the cable operator's perspective, interest in cooperative ventures is greatest if resulting savings can be channeled into programming and marketing efforts designed to attract additional subscribers. Here, too, however, passing on savings to subscribers remains of interest, particularly in the face of escalating programming costs and franchise fees which would otherwise affect subscription rates. Moreover, to the extent that both industries are experiencing increased competition for their core markets, any mechanism for lowering rates, and thereby reducing the competitive threat, becomes all the more attractive.

Before proceeding to an analysis of the issues, it is necessary to review the current regulatory environment, an environment which, like the industries it reflects, is in a considerable state of flux.

The current environment

The current status of regulation of channels furnished by telephone companies for cable systems' use, cable programming, and alternate use of channel capacity is not only confusing, but once understood, may even appear to be irrational. What is clear is that federal, state, and municipal regulation all exist, but not everywhere. It has recently become evident, however, that regulatory oversight of the cable industry will be concentrated at the federal level. Local cable regulation is fast being eroded by federal pre-emption.

Few, if any, enabling PUC statutes were enacted in contemplation of today's technology and competitive atmosphere, and little has been done to modernize these statutes. Lines of regulatory authority can become clouded as communications providers seek to interpret statutes to favor their mode of operation rather than adapt their operations to current statutes. Generally speaking, efforts are made to minimize all regulatory oversight and to avoid state regulation in particular. The success of such attempts to date, however, has been marginal.

FCC regulation

Under the current regulatory framework, the furnishing of communications channels to cable system operators or the acquisition of cable systems by a land-line exchange common carrier requires FCC approval under Section 214(a) of the Communications Act of 1934. This section of the Art requires advance approval from the FCC to construct, acquire, or operate a line that will be used by a cable system operator and requires a showing that the present and future public convenience and necessity will be served through the proposed carrier action. Not only must the land-line telephone company seek such approval, but, having received it, it must then file and gain approval for the tariffs to be charged to the cable operator. On the other hand, should a cable system seek to construct its own facilities for the provision of cable services, no FCC approval is required. However, the prices charged by cable companies to customers are generally subject to state or municipal

Chart N

Targeting Systems

Target Systems	1984 Forecast No. of Systems	Homes Passed	Historical Replacement Cost ($000)	Cost ($000)
Upgrade	384	4,021,700	474,360	893,080
Newbuild	360	3,716,000	1,281,300	N/M
Unused Tax Benefits	2,640	26,995,000	*962,000	*2,093,000
Book/Tax Depreciation Reversal	N/A	N/A	*2,137,000	*4,651,000

N/M - Not Meaningful
N/A - Not Available
* Cumulative Asset Valuation 1975-84

The reality of the regulatory situation is that the anachronistic statutes, fragmentation of interests, and lack of a unifying coordinating body have led to a situation where tripartite jurisdiction (federal, state, and municipal) over a single communications line could impede the development of cooperative ventures and systems delivery.

regulation in either case.

In a recent action, the FCC has proposed to lift the Section 214 requirements on land-line telephone companies that seek to provide channels for their own cable television services outside their operating territories.

However, should the land-line company construct facilities outside of its own territory for the purpose of leasing such facilities back to a cable system operator or to provide other common carrier type services, Section 214(a) of the Communications Act would be applicable. Therefore, the FCC's recent notice of proposed rulemaking, if adopted, would not significantly alter the current environment as it applies to transactions between telephone companies and cable operators.

Other FCC pre-emptive actions relate to cross-ownership rules and pole attachments. The latter is only relevant to the extent that in those instances where telephone common carriers seek to construct or operate distribution facilities for cable operations, they must also demonstrate that the independent cable provider has available at its option pole attachment rights at reasonable charges and *without undue restrictions on the uses that may be made of the channels by the customer.*

State regulation

So long as channel capacity is used by the telephone company solely to provide services to the cable operator and the cable operator provides only cable services, state regulation of the telephone company tariff does not apply. Problems of jurisdictional authority may arise, however, when some of the channel capacity is used by the land-line telephone company to provide alternative common carrier services such as point-to-point data or if the cable operator does likewise. In these circumstances, cable operators have argued strongly that either no regulation should apply or that the FCC has primary jurisdiction.

The reality of the regulatory situation is that the anachronistic statutes, fragmentation of interests, and lack of a unifying coordinating body have led to a situation where tripartite jurisdiction (federal, state, and municipal) over a single communications line could impede the development of cooperative ventures and systems delivery. In fact, it is likely that regulators will inevitably be drawn into proposed cable/telco ventures.

Such regulatory intervention may be minimized if the venture participants fully agree in advance to work together, recognizing the substantial benefits to each party of mutual cooperation. After all, the best outcome of an appeal to a regulatory authority is that one party receives satisfaction. A good rule of thumb, however, is that neither party is fully satisfied. At a minimum, therefore, good working relationships are essential for successful collaboration and in minimizing cause for regulatory intervention.

Future environment

From the perspective of cable/telco collaborative opportunities, the most desirable situation would be the elimination of federal or state regulation of common carrier services provided by cable operators directly or by telephone companies through leaseback arrangements. Unfortunately, the policy questions involved in such deregulation extend far beyond any cable/telco joint venture. Moreover, this question is currently before the U.S. Congress, though at this writing cable industry support for H.R. 4103 appears to be evaporating. *Major* structural regulatory changes aside, there still may be need for legislative action to clarify regulatory lines of responsibility, to recognize the new operating environments and technologies, and to ensure that services delivered to consumers are provided through the most efficient means and on a timely basis.

Cable perspective

ICR and C&L concentrated primarily on regulation from the telco perspective, since cable regulation is in a state of flux as a consequence of the U.S. Supreme Court's recent decision in *Capital Cities vs. Crisp*. In striking down an Oklahoma ban on wine and liquor ads carried by cable systems, the Supreme Court recognized the FCC's authority over cable as a separate industry, i.e., not as an industry ancillary to broadcasting, and said all local cable rules are superseded by FCC policies. That Supreme Court decision has emboldened the FCC to add fuel to the fire by affirming its previous decision pre-empting local rate regulation of all but basic cable services.

However, whether oversight is by a state utility commission or by a local franchisor or by the FCC, one should expect cable regulators to be concerned with the cable operator's loss of control over equipment or activities affecting service quality (particularly where direct customer contact is involved), the effect on future subscriber fees, the viability of the franchisee, and his continued flexibility to respond to technological market changes.

The range of alternative cable/telco ventures trade some control for efficiency and greater financial stability. Arguably, flexibility in responding to changes may not be affected by any of the arrangements considered. Telco ownership and operation of much of the plant, however, means that cable companies do give up direct entry into financial markets and their direct control over the plant.

Thus, while the cooperative scenarios suggested here are economically favorable to the cable industry, one should not necessarily expect enthusiastic endorsement by *all* cable regulators. Experienced regulators generally are loathe to trade potential impediments to safe and adequate service for potential cost reductions.

Telco perspective

What will be regulated? ICR and C&L identified the following cable activities as candidates for transfer to telephone companies: financing (particularly through sale and leaseback); CPE; customer service; installation; billing; maintenance; and construction.

Direct state regulation could theoretically be avoided completely by placing the new venture in a holding company or a subsidiary which has no regulated activities.

Of the activities considered for transfer, however, maintenance, construction, and billing appear to depend on economies of scale available only in the operating companies. Installation would be an operating company activity, as well, but could conceivably be combined with CPE, sold by the unregulated subsidiary. It should be noted, however, that not all operating companies plan to enter the consumer CPE market, and there appears to be little inclination to enter the telephone installation market on an unregulated basis in competition with the operating companies' own regulated installation operations. This could leave financing as an activity that clearly can be engaged in by the holding company with considerable economies of scale without state regulation and CPE for those regional companies that are in the residential CPE market.

Many state utility commissions can exert considerable influence on unregulated activities because of their authority over financing, use of revenues, accounting, and dividend payments. Further, if they disapprove of the ventures, but cannot force a halt, they can cause the costs to be accounted for or allocated in such an unfavorable way that a telco would voluntarily abandon their pursuit.

In summary, a sale/leaseback arrangement between cable operators and telcos, while not a necessary precondition, opens the door to a number of supplementary agreements between the two parties.

This is true of financing, even when carried on by the holding company. Many jurisdictions look at consolidated or double-leveraged capital structures to determine the cost of capital of regulated telcos. This gives the commissions an opportunity to allocate both leverage and cost rates for capital components between regulated and unregulated operations. For example, they may assign, on the basis of a perceived greater risk, a higher-than-average equity ratio and/or cost rate for all kinds of capital to unregulated operations, leaving a below-average equity component and cost rate for regulated operations. Similarly, state commissions allocate income taxes from consolidated tax returns and may be able to reach tax benefits associated with non-jurisdictional businesses.

It is, therefore, wise to obtain the state regulator's blessing before engaging in any of the cooperative ventures suggested here, but there can be no guarantee that what is acceptable today also will be acceptable tomorrow.

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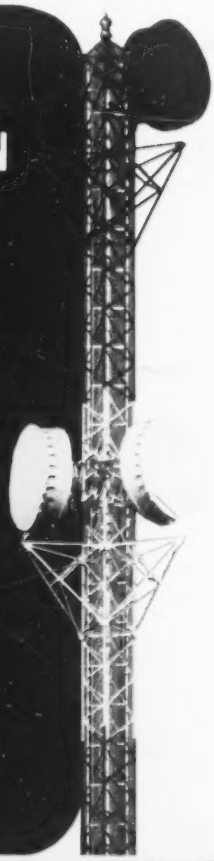

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Sale/leaseback of cable assets to the telcos would reduce both technological and capital structure risks for cable operators.

Financing and use of revenues

Even if the proposed activities are not under the jurisdictional control of state utility regulatory bodies, telephone companies will in many states require approval from these bodies to finance or use revenues for them. The regulator must be shown that the contemplated ventures will not reduce the ability to render safe and adequate telephone service (including reassurance on the issue of reduced access to the capital markets for telephone construction) and that there are adequate safeguards to avoid misallocations of revenues and costs in favor of the unregulated operations. This would probably suffice for a finding that the proposal is not averse to the public interest.

If a showing could also be made that as a result of these activities, corporate earnings and financial ratios would be better than on regulated operations alone, the proposal would probably be considered in the public interest. To the extent regulators see negatives, they can be balanced off by the telco's offering to share some of the profit with ratepayers.

Unfortunately, these are not easy showings to make. No one enters new ventures unless he believes them to be profitable, and usually he has studies to confirm his view. Yet the majority of such ventures by utility companies have been neutral or worse. One should, therefore, expect to encounter a good deal of skepticism.

If the RHC's common stock is already selling below book value, it will be particularly difficult to convince regulators that the new activities will be sufficiently profitable to offset the dilution that will occur from financing cable companies. (If the present equity ratio is to be maintained, any additional capital raised must ultimately require an equity issuance which could have been avoided if the new capital had not been raised.) Regulators would worry that the dilution would hinder or obstruct financing of telco projects. They would be uncertain of markets to provide the requisite return and would fear stranded investment and an unfavorable financial effect. They would also be concerned that the tax benefits generated might hinder utilization of traditional telco tax benefits and would probably insist on assigning priority of recognition for rate-making purposes to the benefits arising from the traditional business.

Short of structural separation of activities (which would frustrate achieving the economies expected), it is extremely difficult to satisfy regulators that there is no cross-subsidization of unregulated activities by regulated activities.

Pricing and cost allocations

A major source of the controversy between telephone companies and businesses that relied on telephone company facilities has been the variability and volatility of month-to-month charges.

In recognition of the partnership aspects of the cooperative provision of cable services and the mutual dependence of each participating partner, tariff terms for channel service should emphasize price stability and some measure of predictability. This could be accomplished either through a multi-year fixed-price tariff or under the two-tier concept developed by Bell Companies for pricing customer premises equipment in the late 1970s and early 1980s. Under the two-tier concept, the leasing party guaranteed the telephone company capital recovery through monthly payments that were fixed over the life of the contract. To recognize any changes in operating costs such as increased taxes or maintenance expenditures, a second rate element was developed, subject to periodic adjustment to reflect changes in operating conditions. Two-tier pricing approaches were approved by regulatory commissions and improved relationships with large customer premises equipment users. It is likely that such arrangements would enhance the viability of telephone company/cable cooperative ventures and would receive regulatory acceptance.

Prices cannot be established in a vacuum, however, and state and federal regulators will exhibit keen interest in the cost documentation provided to establish initial charges as well as cost-tracking procedures employed to monitor ongoing costs. In theory, the telephone company's large work force and inherent economies of scale will enable it to provide installation, repair, and overall administrative services at a cost less than would have been incurred by the cable operator on a standalone basis. The objective of the telephone company would be to improve overall earnings by establishing prices supported by the marketplace, but above its incremental costs. However, regulatory agencies have not been responsive to the use of incremental costing for the purposes of establishing prices. More likely, the regulator will require fully distributed cost allocations to support the prices charged and to minimize opportunities for cross-subsidy between basic telephone exchange rates and cable channel operations. Such regulatory cost allocation procedures may make contract prices to cable systems operators less desirable than otherwise.

On the other hand, if a separate subsidiary provided the channel service, including leasing duct space and paying pole attachment fees to the land-line telephone company, the regulatory incentive to overprice or overcost service would be somewhat diminished since the regulator could not directly capture cable channel service profits. Even so, the regulator would be inclined to weigh risks and cost allocations between affiliated companies to reduce the risk or increase the benefit to the local telephone subscriber. The methods would be similar to those already described in the discussion of what a regulator could do if he wanted to frustrate an arrangement over which he has no direct enforcement

power. However, even if the regulator approves of the arrangement, there is still a danger that he may inadvertently assign too much cost to these unregulated activities in a sincere effort to do no more than to avoid cross-subsidization.

Clearly it is incumbent upon the telephone company, under any scenario, to establish sound accounting procedures and attempt to provide a good audit trail. It must also obtain regulatory concurrence with cost allocation systems in order to minimize future areas of contention with customers, as well as with regulators. Even this offers no guarantee against unanticipated adverse regulatory actions. Commissions generally cannot be bound by their prior actions. There is always a chance, therefore, that in response to new arguments or with a change in complement a commission may change well-established procedures.

Sale and leaseback

In structuring sale/leaseback terms, a number of regulatory concerns arise. All jurisdictions require utility property to be recorded at original cost (defined as cost when the property was first dedicated to the public use whether by the accounting company or predecessors). Therefore, most are hesitant to permit purchase prices in excess of original cost. To what extent cable is considered public service is open to question, however. It is predictable that it would be at least in those states where there is state rate regulation of cable services.

Targeting systems

Cooperative potential

All service and financially oriented cable/telco arrangements require evaluation on a system-by-system basis. ICR and C&L analyzed, on a national level, the potential magnitude—in terms of assets—of such arrangements. Those systems likely to find cable/telco collaboration attractive would have one or more of the following characteristics:

- Newbuild systems—entered into prior to the actual construction of the cable system; such an arrangement could solve both the construction and financing issues;
- Systems likely to upgrade—once again, at the point of upgrade, the arrangement could solve the construction and financing issues;
- Systems owned by MSOs that are not currently utilizing all tax benefits or are carrying net loss carryforwards—cash flow (profits) from the sale/leaseback arrangement would be sheltered by these unutilized tax benefits; and
- Systems whose accelerated tax depreciation no longer exceeds book depreciation—for these systems the cash flow benefit of accelerated tax depreciation can no longer be realized, and therefore, the system is less attractive to the cable operator from a tax viewpoint.

Chart N summarizes the results of the analysis on a national level in 1984. ■

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Cable Industry Growth Chart

YEAR	TVHH	Homes Passed	Basic Subscribers	% of TVHH	Pay Subscribers	% of TVHH
1990E	93,900,000	81,783,000	50,706,000	54	32,959,000	35
1989E	92,800,000	79,109,000	48,256,000	52	30,883,000	33
1988E	91,000,000	75,833,000	45,500,000	50	28,665,000	32
1987E	89,300,000	71,137,000	41,971,000	47	26,022,000	30
1986E	87,800,000	68,121,000	39,510,000	45	24,101,000	27
1985E	86,000,000	64,500,000	36,120,000	42	21,672,000	25
1984E	84,600,000	59,989,000	32,994,000	39	19,764,000	23
1983	83,500,000	53,641,000	30,300,000	36	17,877,000	21
1982	82,800,000	49,100,000	28,200,000	34	15,898,000	19
1981	80,700,000	44,000,000	22,596,000	28	11,804,000	15
1980	77,800,000	37,300,000	18,672,000	24	7,780,000	10
1979	76,300,000	32,700,000	16,023,000	21	5,341,000	7
1978	74,500,000	27,200,000	14,155,000	19	2,980,000	4
1977	73,300,000	24,894,000	13,194,000	18	1,466,000	2
1976	71,114,000	21,989,000	12,094,000	17	505,000	1
1975	69,600,000	19,900,000	11,136,000	16	N/A	N/A

Source: CableProFile Data Base, INTERNATIONAL COMMUNICATIONS RESEARCH

Cable barometer

Television households (TVHH) .. 83,775,000

Homes passed by cable (HP) 54,500,000

Percent of TVHH passed by cable 65.1%

Basic cable subs. 30,700,000

Percent of TVHH with basic cable .. 36.7%

Percent of HP with basic cable .. 56.3%

Pay cable subs 18,300,000

Percent of TVHH with pay cable 21.8%

Percent of HP with pay cable 33.6%

Percent of basic subs with pay cable 59.6%

Figures are as of March 30, 1984
Source: CableProFile Data Base, INTERNATIONAL COMMUNICATIONS RESEARCH

Satellite lineup

Satcom III-R (RCA Americom)	Transponder
AP News Cable	6
ARTS and Entertainment	1
*Bonneville's Easy Listening (audio)	3
C-SPAN	19
Cable Jazz Network (audio service)	8
CBN Cable Network	8
Cable News Network	14
CNN Headline News	15
Cinemax (East)	20
(West)	23
Dow Jones Cable News (text) (Southern Satellite Systems)	6
EPG (United Video/text)	3
ESPN	7
Eternal Word Television Network	18
Financial News Network	4
Genesis Storytime	8
HBO (East)	24
(West)	13
HTN	16
Keyfax (text)	6
The Learning Channel	16
Lifestyle (United Video/audio service)	3
Lifetime	17
Love Sounds (audio service)	8
Moody Broadcasting Network (United Video/audio service)	3
The Movie Channel (East)	5
MSN—The Information Channel	22
MTV	11
National Jewish Television	18
Nice and Easy (audio service)	8
Nickelodeon	1
PTL	2
Reuters News View (text)	18
(SSS)	6
Satellite Radio Network (audio service)	2
SCAN (audio service)	6
Showtime (East)	12
(West)	10
Sports Time Cable Network	4
Starship	6
UPI Cable News (text)	3
UPI Customized Cable News (text)	6
USA Cable Network	9
(during blackout)	22
Video Concert Hall	16
The Weather Channel	21
WFMT (United Video/audio service)	3
WGN (United Video)	3
WTBS (SSS)	6

Satcom IV (RCA Americom)	Transponder
*American Movie Classics	10
Biznet (Viacom)	15
Bravo (ESPN)	2
Satellite Jazz Network, KKGO-FM	17
National Christian Network	7
Playboy (evenings)	12
Santa Fe Communications	23
SCAN	3
SPN	3
SportsVision	9
Starship	3
Trinity Broadcasting Network	17
WPIX	21

Westar IV (Western Union)	Transponder
*AmSat	5D
*AmSat/Digital Traffic	6X,7D
*Bonneville Satellite	3D,12X
Cable News Network News Feeds	8X
*Hughes Television Network	1X,2X,7X
*Wold Communications	6D,9X,10D

Comstar D-4 (AT&T/GTE)	Transponder
Country Music Television	9H
ON TV	5V,6V
The Silent Network	9H

Galaxy I (Hughes)	Transponder
BET	17
Business Times	9
CBN	11
Cinemax	19
CNN	7
CNN Headline News	8
The Disney Channel	4,24
GalaVision (SIN0	20
HBO	23
Home Team Sports	12
The Movie Channel	14
Nashville Network	2
Showtime	5
SIN	6
Turner Broadcasting	7,18
WOR-TV	15

* August listing
Note: A company name in parentheses following a service or network designates the transponder owner
Source: Titsch Communications Inc

Top 100 MSOs

Rank	Multiple system operator	Basic subs	
1	Tele-Communications	2,798,000	(3/84)
2	American Television and Communications	2,400,000	(5/84)
3	Group W Cable	2,007,000	(7/84)
4	Cox Cable Communications	1,515,423	(7/84)
5	Storer Cable Communications	1,440,000	(6/84)
6	Warner Amex Cable Communications	1,371,000	(7/84)
7	Times Mirror Cable Television	981,304	(6/84)
8	Continental Cablevision	896,000	(7/84)
9	Newhouse Broadcasting	843,649	(5/84)
10	Viacom Cablevision	758,000	(6/84)
11	United Cable Television	679,000	(7/84)
12	Sammons Communications	594,000	(5/84)
13	Rogers Cablesystems	564,497	(7/84)
14	Cablevision Systems Development	532,000	(7/84)
15	Comcast Cable Communications	463,000	(7/84)
16	Telecable Corp	411,606	(6/84)
17	Heritage Communications	407,195	(7/84)
18	Jones Intercable	395,565	(7/84)
19	Capital Cities Cable	357,435	(7/84)
20	UA Cablesystems	346,000	(7/84)
21	General Electric Cablevision	325,056	(7/84)
22	Wometco Cable TV	295,247	(7/84)
23	Century Communications	285,000	(7/84)
24	Tele-Media	277,450	(12/83)
25	Prime Cable	272,788	(6/84)
26	Daniels and Associates	262,062	(7/84)
27	Multimedia Cablevision	257,741	(7/84)
28	Centel Cable Television	248,751	(7/84)
29	TCA Group	245,056	(7/84)
30	MacLean Hunter	234,327	(7/84)
31	American Cablesystems	199,934	(6/84)
32	Scripps-Howard	199,466	(7/84)
33	Service Electric Cable TV	189,500	(4/84)
34	Colony Communications	187,116	(7/84)
35	Adelphia Communications	186,870	(7/84)
36	Cable Vision Industries	182,954	(7/84)
37	TeleScripps Cable	181,182	(7/84)
38	Rollins Cableview	178,638	(7/84)
39	Communications Service	175,000	(9/83)
40	Cablentertainment	170,815	(6/84)
41	Tribune Cable Communications	169,391	(7/84)
42	Western Communications	148,323	(7/84)
43	Harte Hanks Communications	146,294	(7/84)
44	McDonald Group	139,585	(6/83)
45	Adams-Russell Communications	130,539	(7/84)
46	Harron Communications	129,866	(7/84)
47	Midcontinent Cable Systems	126,881	(6/84)
48	McCaw Communications	120,093	(7/84)
49	Midwest Video	118,102	(9/83)
50	Sutton Capital	117,204	(6/84)
51	Buckeye Cablevision	116,379	(7/84)
52	Falcon Communications	112,000	(7/84)
53	Televents	108,772	(7/84)
54	Armstrong Utilities	105,945	(7/84)
55	Harris Cable	105,719	(6/84)
56	Communications Systems	94,655	(4/84)
57	Lenfest Group	90,278	(6/84)
58	Summit Communications	90,019	(7/84)
59	Greater Media	88,120	(6/84)
60	Multi-Channel TV Cable	87,755	(4/84)
61	U.S. Cable	85,500	(6/84)
62	McClatchy Newspapers	82,733	(7/84)
63	King Videocable	81,074	(7/84)
64	The Essex Group	79,884	(7/84)
65	National Telecommunications	76,450	(3/84)
66	Perry Cable TV	75,820	(7/84)
67	Palmer Communications	75,644	(7/84)
68	Acton	74,177	(7/84)
69	WEHCO Video	74,200	(7/84)
70	Ultracom	73,926	(7/84)
71	Omega Communications	68,000	(4/84)
72	Susquehanna Broadcasting	67,602	(7/84)
73	Cable Management Associates	65,500	(5/84)
74	Sonic Cable	64,522	(7/84)
75	Pencor Services	63,450	(5/84)
76	Booth Communications	63,184	(7/84)
77	Wabash Cablevision	61,500	(7/84)
78	Omni Cable TV	55,659	(7/84)
79	Selkirk Communications	53,600	(7/84)
80	Marsh Media	53,224	(7/84)
81	The Daily Press	52,000	(6/84)
82	Simmons Communications	47,406	(7/84)
83	United Video Management	47,333	(7/84)
84	Wisconsin Cablevision and Radio	46,449	(7/84)
85	Matrix Enterprises	45,339	(7/84)
86	Helicon	42,699	(7/84)
87	Cencom Cable Associates	41,434	(7/84)
88	Chambers Communications	41,236	(7/84)
89	Donrey Cablevision	40,523	(5/84)
90	Whitney Communications	40,504	(7/84)
91	Combined Cable	40,051	(7/84)
92	Joseph Gans	39,927	(4/84)
93	Marcus Communications	37,495	(7/84)
94	New England Cablevision	36,858	(7/84)
95	Masada	36,323	(7/84)
96	National Cablesystems	35,704	(7/84)
97	Multivision Group	34,544	(7/84)
98	Cable Holdings	33,711	(6/84)
99	First Carolina Communications	33,274	(7/84)
100	Star CATV Investment	32,092	(7/84)

Source: Subscriber counts are provided by MSOs to Titsch Communications Inc

Top 100 systems

Rank	Location	Operator	Basic subs	
1	San Diego, CA	Cox Cable	246,799	(7/84)
2	Woodbury (Long Island), NY	Cablevision Systems	233,000	(7/84)
3	San Antonio, TX	Rogers Cablesystems	190,618	(7/84)
4	Manhattan, NY	ATC	187,900	(12/83)
5	Houston, TX	Warner Amex Cable	184,500	(6/84)
6	Florida Division	ATC	179,800	(7/84)
7	East Orange, NJ	MacLean Hunter	163,527	(7/84)
8	Wayne, NJ	UA Cablesystems	130,300	(7/84)
9	Cincinnati, OH	Warner Amex	127,000	(7/84)
10	Englewood, CO	United Cable	118,245	(7/84)
11	Audubon, NJ	Independent	116,120	(7/84)
12	Tulsa, OK	United Cable	115,787	(6/84)
13	Rochester, NY	ATC	108,600	(12/83)
14	Baltimore County, MD	Comcast	107,900	(6/84)
15	Tidewater (Norfolk), VA	Cox Cable	106,262	(7/84)
16	San Juan, PR	Harris Cable	105,719	(6/84)
17	Erie County, NY	Prime Cable	104,970	(7/84)
18	Atlanta, GA	Prime Cabe	103,945	(7/84)
19	San Jose, CA	Gill Industries	102,700	(7/84)
20	Austin, TX	ATC	98,900	(12/83)
21	Jacksonville, FL	Continental	98,177	(7/84)
22	Honolulu, HI	ATC	97,100	(7/84)
23	Seattle, WA	Group W Cable	96,500	(7/84)
24	Toledo, OH	Buckey Cablevision	96,087	(7/84)
25	Central Islip (Long Island), NY	Viacom Cablevision	95,000	(6/84)
26	Memphis, TN	ATC	94,300	(12/83)
27	Jefferson Parish/Kenner, LA	Cox Cable	93,005	(7/84)
28	Manhattan, NY	Group W Cable	92,150	(7/84)
29	San Francisco, CA	Viacom Cablevision	86,700	(6/84)
30	Dallas, TX	Warner Amex	83,240	(7/84)
31	Wilmington, DE	Rollins Cableview	81,800	(7/84)
32	Grand Rapids, MI	General Electric	80,685	(7/84)
33	Wichita, KS	Multimedia Cablevision	80,158	(7/84)
34	San Diego, CA	ATC	78,900	(12/83)
35	Seattle, WA	Viacom Cablevision	78,000	(6/84)
36	Phoenix, AZ	Times Mirror	75,761	(6/84)
37	Los Angeles, CA	Falcon Communications	75,000	(7/84)
38	Flint, MI	Comcast Cable	74,500	(6/84)
39	New Orleans, LA	Cox Cable	73,919	(7/84)
40	Pittsburgh, PA	Warner Amex	73,835	(7/84)
41	Louisville, KY	Times Mirror	65,952	(6/84)
42	South Bend, IN	Heritage	67,223	(6/84)
43	Broward County, FL	Storer Cable	67,034	(6/84)
44	Tacoma, WA	Independent	66,113	(5/84)
45	Richmond/Henrico County, VA	Continental Cable	66,000	(6/84)
46	Omaha, NE	Cox Cable	65,370	(7/84)
47	Baton Rouge, LA	Daniels & Associates	64,989	(6/81)
48	South Texas, TX	Heritage	64,629	(6/84)
49	Charlotte, NC	ATC	64,600	(12/83)
50	Santa Monica, CA	Group W Cable	64,600	(7/84)
51	Cleveland Heights, OH	Viacom	64,000	(6/84)
52	Jefferson County, KY	Storer	63,845	(6/84)
53	Pompano Beach, FL	American Cablesystems	63,145	(5/84)
54	Columbus, OH	Warner Amex	62,119	(4/84)
55	Buffalo, NY	TCI	61,000	(3/84)
56	Akron, OH	Warner Amex	60,772	(4/84)
57	Boston Complex (Malden), MA	Warner Amex	60,327	(4/84)
58	Indianapolis, IN	Wabash Cablevision	60,300	(5/84)
59	St. Petersburg, FL	Group W Cable	60,300	(7/84)
60	Clearwater, FL	Newhouse	60,000	(7/84)
61	Allentown, PA	Service Electric Cable	60,000	(7/84)
62	Kansas City, MO	ATC	59,100	(12/83)
63	El Paso, TX	Group W Cable	58,600	(7/84)
64	Syracuse Suburbs, NY	New Channels	58,528	(7/84)
65	Las Vegas, NV	Times Mirror	58,448	(6/84)
66	Monterey, CA	Western	58,363	(7/84)
67	Santa Barbara, CA	Cox Cable	58,292	(7/84)
68	Snohomish County, WA	Viacom	58,000	(6/84)
69	Chicago Suburbs (Oak Park), IL	Cablevision System	57,000	(7/84)
70	Harrisburg, PA	Sammons Communications	57,000	(5/84)
71	Sarasota, FL	Storer Cable	56,913	(6/84)
72	Hartford, CT	Times Mirror	56,794	(7/84)
73	Nashville, TN	Viacom	56,000	(6/84)
74	Des Moines, IA	Heritage	55,525	(6/84)
75	Knoxsville, TN	TeleScripps Cable	55,377	(7/84)
76	Madison, WI	Midcontinent Cable/TCI	55,375	(7/84)
77	Allentown, PA	Independent	55,000	(3/84)
78	New Haven, CT	Storer Cable	54,762	(6/84)
79	Boston, MA	Cablevision	54,520	(7/84)
80	Binghamton, NY	New Channels	54,334	(7/84)
81	Bridgeport, CT	Cablevision Systems/ Scripps-Howard	54,000	(7/84)
82	Albany, GA	Storer Cable	53,782	(6/84)
83	Columbus, OH	Coaxial Communications	53,424	(7/84)
84	Chattanooga, TN	TeleScripps Cable	53,202	(7/84)
85	Worcester (Leicester), MA	Greater Media	53,139	(6/84)
86	Charleston, SC	Storer	53,002	(6/84)
87	Westchester County (New Rochelle), NY	UA Cablesystems	52,800	(7/84)
88	Port Arthur, TX	TCI	52,470	(12/83)
89	Canton, OH	Warner Amex	52,367	(4/84)
90	Oklahoma City, OK	Cox Cable	52,089	(7/84)
91	Escondido/San Diego, CA	Times Mirror	51,978	(7/84)
92	New Britian, CT	United Cable	51,619	(7/84)
93	Shreveport, LA	ATC	51,400	(12/83)
94	San Rafael/Marin County, CA	Viacom	50,900	(7/84)
95	Jackson, MS	ATC	50,700	(12/83)
96	Reading, PA	ATC	50,000	(12/83)
97	Albuquerque, NM	Tribune Cable	49,877	(7/84)
98	Winston-Salem, NC	Summit Communications	49,415	(7/84)
99	Lexington, KY	Telecable Corp	49,078	(6/84)
100	Birmingham, AL	ATC	48,000	(6/84)

Source: Subscriber counts are provided by MSOs and individual systems to Titsch Communications Inc